



Full wwPDB X-ray Structure Validation Report ⓘ

Jun 12, 2024 – 09:16 PM EDT

PDB ID : 3R2W
Title : Crystal Structure of UDP-glucose Pyrophosphorylase of Homo Sapiens
Authors : Zheng, X.; Yu, Q.
Deposited on : 2011-03-14
Resolution : 3.60 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.20.1
EDS : 2.36.2
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

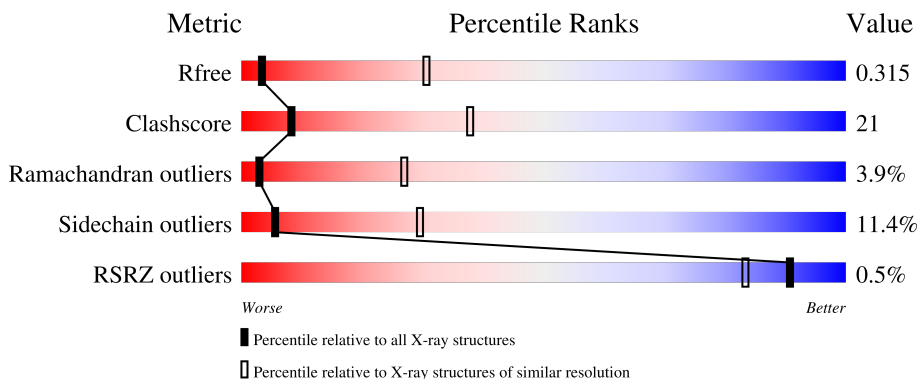
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.60 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1257 (3.70-3.50)
Clashscore	141614	1353 (3.70-3.50)
Ramachandran outliers	138981	1307 (3.70-3.50)
Sidechain outliers	138945	1307 (3.70-3.50)
RSRZ outliers	127900	1161 (3.70-3.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	528	
1	B	528	
1	C	528	
1	D	528	

2 Entry composition i

There is only 1 type of molecule in this entry. The entry contains 13938 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called UTP--glucose-1-phosphate uridylyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	465	3539	2253	604	672	10	0	0	0
1	B	467	3534	2251	605	667	11	0	0	0
1	C	450	3299	2088	557	646	8	0	0	0
1	D	468	3566	2275	608	672	11	0	0	0

There are 80 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-30	MET	-	expression tag	UNP Q16851
A	-29	GLY	-	expression tag	UNP Q16851
A	-28	SER	-	expression tag	UNP Q16851
A	-27	SER	-	expression tag	UNP Q16851
A	-26	HIS	-	expression tag	UNP Q16851
A	-25	HIS	-	expression tag	UNP Q16851
A	-24	HIS	-	expression tag	UNP Q16851
A	-23	HIS	-	expression tag	UNP Q16851
A	-22	HIS	-	expression tag	UNP Q16851
A	-21	HIS	-	expression tag	UNP Q16851
A	-20	SER	-	expression tag	UNP Q16851
A	-19	SER	-	expression tag	UNP Q16851
A	-18	GLY	-	expression tag	UNP Q16851
A	-17	LEU	-	expression tag	UNP Q16851
A	-16	VAL	-	expression tag	UNP Q16851
A	-15	PRO	-	expression tag	UNP Q16851
A	-14	ARG	-	expression tag	UNP Q16851
A	-13	GLY	-	expression tag	UNP Q16851
A	-12	SER	-	expression tag	UNP Q16851
A	-11	HIS	-	expression tag	UNP Q16851
B	-30	MET	-	expression tag	UNP Q16851

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
B	-29	GLY	-	expression tag	UNP Q16851
B	-28	SER	-	expression tag	UNP Q16851
B	-27	SER	-	expression tag	UNP Q16851
B	-26	HIS	-	expression tag	UNP Q16851
B	-25	HIS	-	expression tag	UNP Q16851
B	-24	HIS	-	expression tag	UNP Q16851
B	-23	HIS	-	expression tag	UNP Q16851
B	-22	HIS	-	expression tag	UNP Q16851
B	-21	HIS	-	expression tag	UNP Q16851
B	-20	SER	-	expression tag	UNP Q16851
B	-19	SER	-	expression tag	UNP Q16851
B	-18	GLY	-	expression tag	UNP Q16851
B	-17	LEU	-	expression tag	UNP Q16851
B	-16	VAL	-	expression tag	UNP Q16851
B	-15	PRO	-	expression tag	UNP Q16851
B	-14	ARG	-	expression tag	UNP Q16851
B	-13	GLY	-	expression tag	UNP Q16851
B	-12	SER	-	expression tag	UNP Q16851
B	-11	HIS	-	expression tag	UNP Q16851
C	-30	MET	-	expression tag	UNP Q16851
C	-29	GLY	-	expression tag	UNP Q16851
C	-28	SER	-	expression tag	UNP Q16851
C	-27	SER	-	expression tag	UNP Q16851
C	-26	HIS	-	expression tag	UNP Q16851
C	-25	HIS	-	expression tag	UNP Q16851
C	-24	HIS	-	expression tag	UNP Q16851
C	-23	HIS	-	expression tag	UNP Q16851
C	-22	HIS	-	expression tag	UNP Q16851
C	-21	HIS	-	expression tag	UNP Q16851
C	-20	SER	-	expression tag	UNP Q16851
C	-19	SER	-	expression tag	UNP Q16851
C	-18	GLY	-	expression tag	UNP Q16851
C	-17	LEU	-	expression tag	UNP Q16851
C	-16	VAL	-	expression tag	UNP Q16851
C	-15	PRO	-	expression tag	UNP Q16851
C	-14	ARG	-	expression tag	UNP Q16851
C	-13	GLY	-	expression tag	UNP Q16851
C	-12	SER	-	expression tag	UNP Q16851
C	-11	HIS	-	expression tag	UNP Q16851
D	-30	MET	-	expression tag	UNP Q16851
D	-29	GLY	-	expression tag	UNP Q16851
D	-28	SER	-	expression tag	UNP Q16851

Continued on next page...

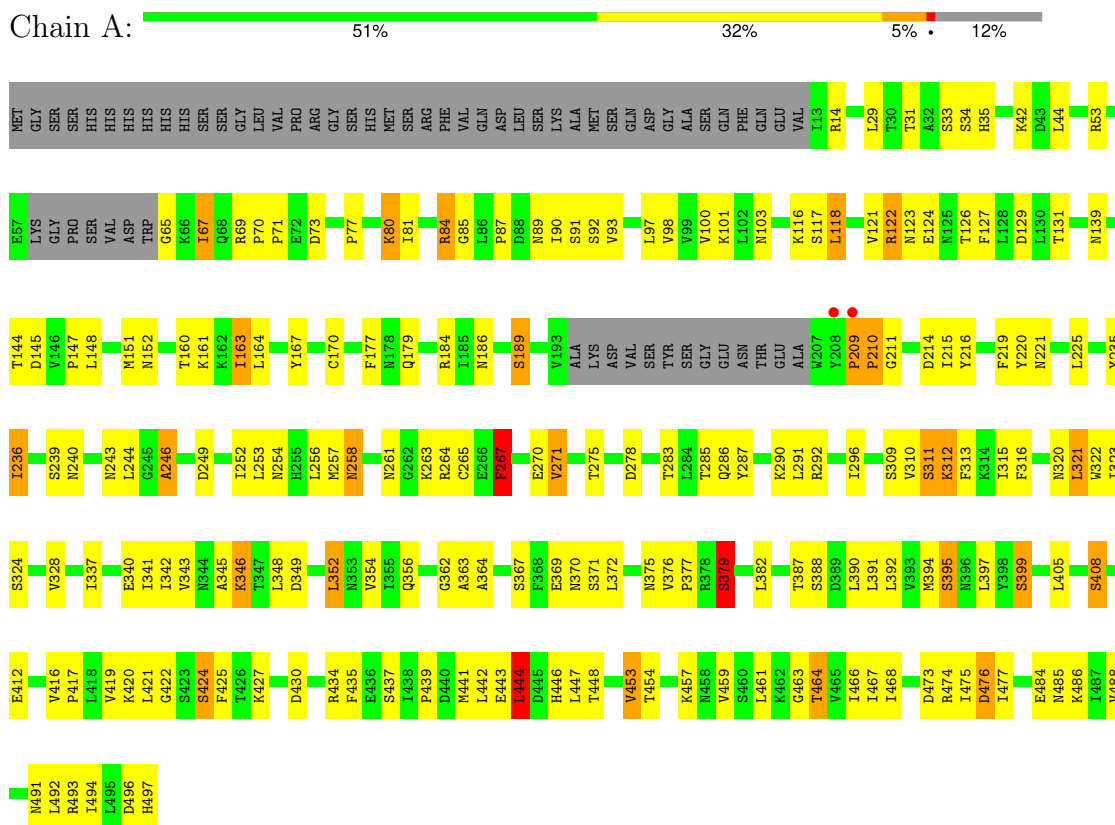
Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
D	-27	SER	-	expression tag	UNP Q16851
D	-26	HIS	-	expression tag	UNP Q16851
D	-25	HIS	-	expression tag	UNP Q16851
D	-24	HIS	-	expression tag	UNP Q16851
D	-23	HIS	-	expression tag	UNP Q16851
D	-22	HIS	-	expression tag	UNP Q16851
D	-21	HIS	-	expression tag	UNP Q16851
D	-20	SER	-	expression tag	UNP Q16851
D	-19	SER	-	expression tag	UNP Q16851
D	-18	GLY	-	expression tag	UNP Q16851
D	-17	LEU	-	expression tag	UNP Q16851
D	-16	VAL	-	expression tag	UNP Q16851
D	-15	PRO	-	expression tag	UNP Q16851
D	-14	ARG	-	expression tag	UNP Q16851
D	-13	GLY	-	expression tag	UNP Q16851
D	-12	SER	-	expression tag	UNP Q16851
D	-11	HIS	-	expression tag	UNP Q16851

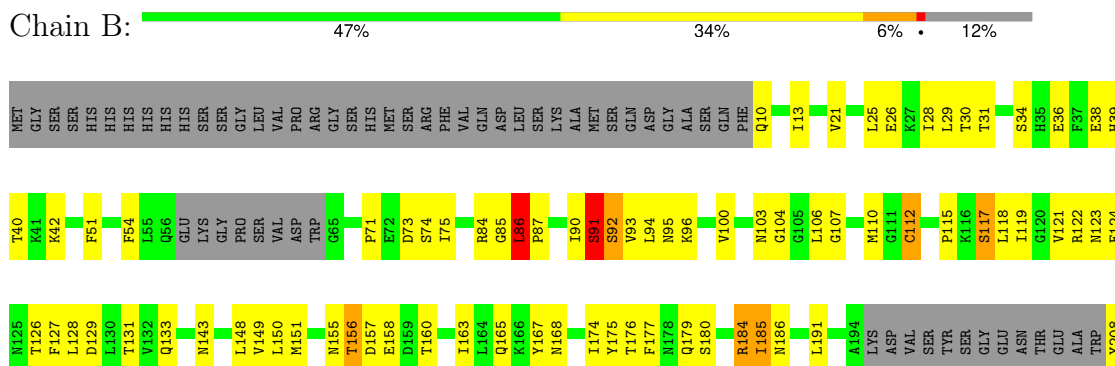
3 Residue-property plots

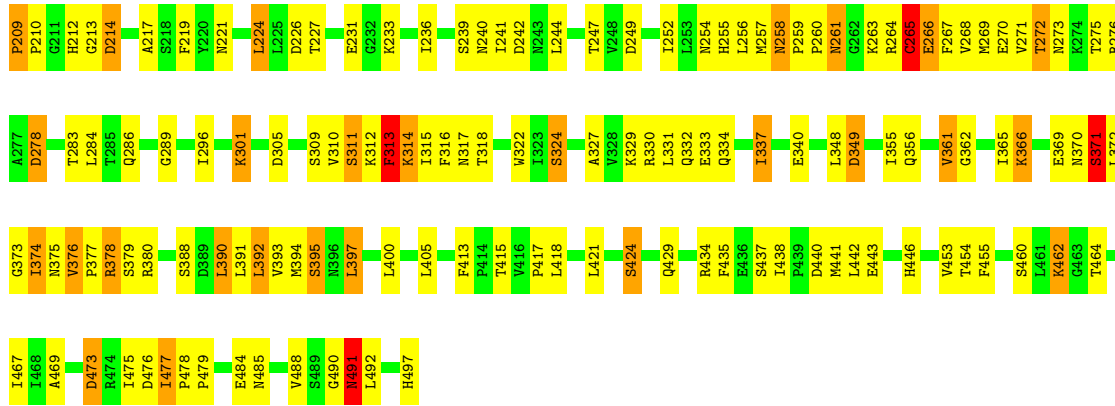
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: UTP--glucose-1-phosphate uridylyltransferase

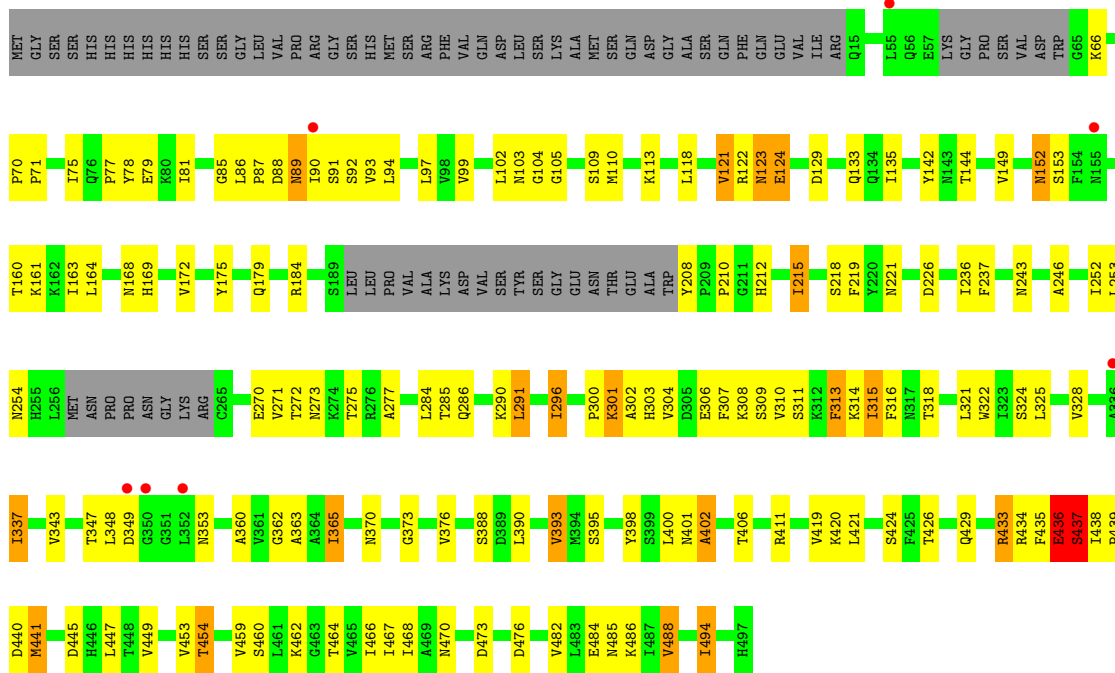


- Molecule 1: UTP--glucose-1-phosphate uridylyltransferase

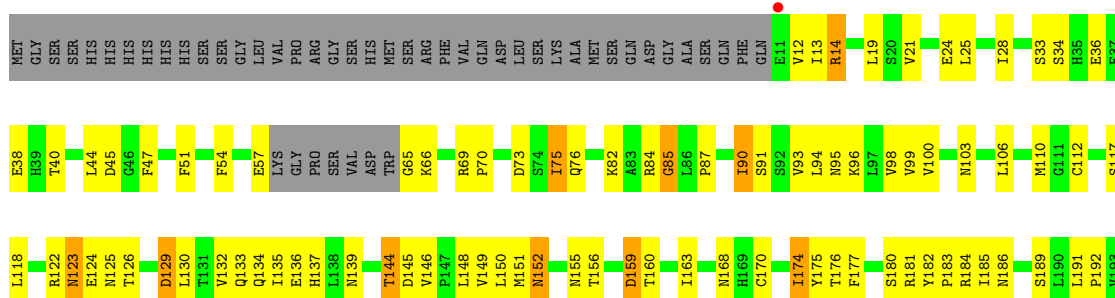




● Molecule 1: UTP--glucose-1-phosphate uridylyltransferase



● Molecule 1: UTP--glucose-1-phosphate uridylyltransferase



ALA	A206	A377	R380	K482
LYS	M207	A278	F381	G463
ASP	Y208	V279	L382	V464
VAL	P210	G282	T386	V465
SER	D214	T283	T387	I466
TYR	I215	L283	S388	I467
SER	Y216	L289	D389	I468
GLY	F219	V294	L390	A469
GLU	L225	I295	L391	M470
ASN	L236	I296	L392	H471
THR	I241	D305	V393	R474
THR	D242	K308	K384	I475
GLU	M243	S309	S395	D476
	T247	V310	N396	I477
L250	L251	S311	L397	L492
Y251	I252	K312	Y398	R493
I252	L253	F313	L405	I494
M254	M254	K314	R411	L495
H255	M255	I315	T415	D496
L256	M257	F316	V416	H497
M257	M258	N317	P417	
M258	P259	M320	L418	
P259	P260	L321	V419	
P260	K263	W322	K420	
K263	R264	L325	L421	
R264	C265	I327	S424	
C265	E266	D338	F425	
E266	F267	T347	T426	
F267	V268	L348	Y431	
V268	M269	D349	R434	
M269	E270	L352	F435	
E270	V271	N353	E436	
V271	T272	V354	S437	
T272	M273	I355	I438	
M273	K274	Q356	F439	
K274	T275	L357	D440	
T275	R276	A363	M441	
R276		A364	L442	
		I365	E443	
		K366	L444	
		M370	D445	
		S371	H446	
		L372	L447	
		G373	T448	
		I374	V449	
		M375	S450	
		V376	G451	
		P377	D452	
		S378	V453	
		S379	T454	
			P455	
			L461	

4 Data and refinement statistics

Property	Value	Source
Space group	P 31 2 1	Depositor
Cell constants a, b, c, α , β , γ	140.44Å 140.44Å 311.72Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	20.00 – 3.60 20.00 – 3.60	Depositor EDS
% Data completeness (in resolution range)	94.0 (20.00-3.60) 94.0 (20.00-3.60)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.37 (at 3.62Å)	Xtrriage
Refinement program	REFMAC 5.5.0102	Depositor
R, R_{free}	0.247 , 0.304 0.267 , 0.315	Depositor DCC
R_{free} test set	1985 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å ²)	113.6	Xtrriage
Anisotropy	0.002	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.22 , 57.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	0.022 for -h,-k,l	Xtrriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	13938	wwPDB-VP
Average B, all atoms (Å ²)	144.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.12% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality i

5.1 Standard geometry i

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.61	2/3602 (0.1%)	0.72	1/4894 (0.0%)
1	B	0.58	0/3596	0.79	1/4889 (0.0%)
1	C	0.51	0/3353	0.66	0/4578
1	D	0.67	0/3630	0.83	3/4936 (0.1%)
All	All	0.60	2/14181 (0.0%)	0.75	5/19297 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	311	SER	CB-OG	10.91	1.56	1.42
1	A	379	SER	CB-OG	7.32	1.51	1.42

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	382	LEU	CA-CB-CG	5.99	129.08	115.30
1	D	33	SER	N-CA-C	-5.80	95.35	111.00
1	A	444	LEU	CA-CB-CG	5.35	127.60	115.30
1	B	86	LEU	CA-CB-CG	5.28	127.45	115.30
1	D	33	SER	C-N-CA	5.09	134.43	121.70

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	91	SER	Peptide

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3539	0	3474	134	0
1	B	3534	0	3471	171	0
1	C	3299	0	3094	104	0
1	D	3566	0	3511	184	0
All	All	13938	0	13550	581	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 21.

All (581) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:265:CYS:HA	1:B:266:GLU:CB	1.83	1.07
1:C:218:SER:HA	1:C:221:ASN:HB2	1.37	1.02
1:C:91:SER:H	1:C:92:SER:HA	1.19	1.00
1:D:87:PRO:HG3	1:D:254:ASN:HB2	1.47	0.96
1:D:129:ASP:O	1:D:133:GLN:HG3	1.64	0.95
1:B:265:CYS:HA	1:B:266:GLU:HB2	1.50	0.94
1:A:446:HIS:HB3	1:A:464:THR:HG22	1.49	0.93
1:B:273:ASN:HA	1:B:314:LYS:O	1.69	0.92
1:B:84:ARG:H	1:B:85:GLY:HA2	1.34	0.92
1:D:186:ASN:HB3	1:D:189:SER:HB2	1.52	0.92
1:A:454:THR:HG23	1:A:476:ASP:HB3	1.52	0.92
1:A:309:SER:HA	1:A:310:VAL:C	1.89	0.92
1:B:90:ILE:H	1:B:91:SER:HA	1.35	0.91
1:D:90:ILE:N	1:D:91:SER:HA	1.85	0.91
1:A:126:THR:HG22	1:A:129:ASP:OD2	1.71	0.90
1:A:91:SER:HA	1:A:92:SER:HB3	1.54	0.89
1:B:100:VAL:HG22	1:B:149:VAL:HB	1.54	0.89
1:D:454:THR:HG22	1:D:476:ASP:HA	1.56	0.88
1:C:92:SER:H	1:C:93:VAL:HB	1.37	0.87

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:438:ILE:HD12	1:B:438:ILE:H	1.40	0.87
1:B:126:THR:HG23	1:B:129:ASP:H	1.40	0.86
1:C:91:SER:N	1:C:92:SER:HA	1.87	0.85
1:B:265:CYS:HA	1:B:266:GLU:HB3	1.59	0.84
1:B:337:ILE:HD12	1:B:337:ILE:H	1.40	0.84
1:C:436:GLU:O	1:C:437:SER:HB2	1.77	0.83
1:B:309:SER:HB2	1:B:310:VAL:HA	1.62	0.82
1:A:387:THR:HG21	1:A:425:PHE:O	1.80	0.82
1:D:148:LEU:HD21	1:D:150:LEU:HD21	1.63	0.80
1:A:90:ILE:H	1:A:91:SER:HA	1.44	0.80
1:B:90:ILE:N	1:B:91:SER:HA	1.97	0.80
1:B:392:LEU:HD11	1:B:417:PRO:HG2	1.64	0.80
1:A:123:ASN:N	1:A:124:GLU:HA	1.97	0.80
1:B:129:ASP:O	1:B:133:GLN:HG2	1.82	0.78
1:D:90:ILE:H	1:D:91:SER:HA	1.46	0.78
1:D:444:LEU:HD12	1:D:461:LEU:HB2	1.63	0.78
1:B:469:ALA:HB2	1:B:475:ILE:HG13	1.64	0.77
1:B:376:VAL:HG12	1:B:377:PRO:HD2	1.64	0.77
1:D:411:ARG:NH2	1:D:417:PRO:HD3	1.98	0.77
1:D:149:VAL:HG22	1:D:175:TYR:HB2	1.67	0.77
1:D:106:LEU:HD21	1:D:155:ASN:HB3	1.67	0.77
1:C:103:ASN:HD22	1:C:152:ASN:HD22	1.32	0.77
1:A:167:TYR:O	1:A:170:CYS:HB2	1.85	0.76
1:B:115:PRO:HB3	1:B:156:THR:HG22	1.67	0.75
1:C:494:ILE:O	1:C:494:ILE:HG22	1.86	0.75
1:B:123:ASN:N	1:B:124:GLU:HA	2.02	0.75
1:D:272:THR:HG22	1:D:316:PHE:CD2	2.21	0.75
1:C:70:PRO:HG3	1:C:285:THR:HG22	1.67	0.75
1:D:122:ARG:C	1:D:124:GLU:HA	2.07	0.74
1:A:420:LYS:HE2	1:D:496:ASP:O	1.87	0.74
1:C:122:ARG:HD2	1:C:400:LEU:HD13	1.68	0.74
1:B:84:ARG:H	1:B:85:GLY:CA	2.01	0.74
1:B:267:PHE:CE2	1:B:365:ILE:HG12	2.22	0.73
1:D:129:ASP:O	1:D:133:GLN:CG	2.34	0.73
1:A:324:SER:O	1:A:328:VAL:HG23	1.87	0.73
1:D:449:VAL:HG12	1:D:467:ILE:HB	1.69	0.73
1:D:265:CYS:HB3	1:D:370:ASN:HB3	1.70	0.73
1:B:454:THR:HG22	1:B:476:ASP:HA	1.70	0.72
1:A:264:ARG:HB3	1:A:265:CYS:HA	1.70	0.72
1:D:395:SER:HB2	1:D:397:LEU:H	1.55	0.71
1:D:139:ASN:OD1	1:D:146:VAL:HG23	1.90	0.71

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:469:ALA:HB2	1:D:475:ILE:HD11	1.72	0.71
1:A:91:SER:HA	1:A:92:SER:CB	2.20	0.71
1:B:75:ILE:HA	1:B:373:GLY:O	1.90	0.71
1:C:77:PRO:C	1:C:79:GLU:H	1.94	0.71
1:D:382:LEU:HD21	1:D:398:TYR:HE1	1.54	0.71
1:D:450:SER:HB3	1:D:468:ILE:HD12	1.71	0.71
1:D:263:LYS:HA	1:D:264:ARG:CB	2.21	0.71
1:A:42:LYS:HE3	1:A:221:ASN:HD22	1.55	0.70
1:C:215:ILE:O	1:C:219:PHE:HB2	1.92	0.70
1:D:419:VAL:HG22	1:D:447:LEU:HB3	1.73	0.70
1:A:388:SER:HA	1:A:421:LEU:HD12	1.72	0.70
1:D:90:ILE:N	1:D:91:SER:CA	2.54	0.70
1:B:337:ILE:HD12	1:B:337:ILE:N	2.06	0.69
1:A:90:ILE:N	1:A:91:SER:HA	2.07	0.69
1:C:92:SER:N	1:C:93:VAL:HB	2.06	0.69
1:A:434:ARG:HD2	1:A:453:VAL:O	1.93	0.69
1:C:275:THR:HG22	1:C:277:ALA:H	1.57	0.69
1:B:497:HIS:O	1:C:420:LYS:HD3	1.92	0.68
1:A:90:ILE:H	1:A:92:SER:HB3	1.58	0.68
1:D:87:PRO:HG3	1:D:254:ASN:CB	2.24	0.68
1:A:91:SER:HB2	1:A:93:VAL:H	1.58	0.67
1:D:271:VAL:CG1	1:D:315:ILE:HG23	2.24	0.67
1:B:310:VAL:HB	1:B:312:LYS:HG3	1.77	0.67
1:B:441:MET:O	1:B:443:GLU:N	2.25	0.67
1:A:290:LYS:HE2	1:A:369:GLU:HA	1.76	0.67
1:D:122:ARG:O	1:D:123:ASN:HB3	1.94	0.67
1:B:184:ARG:H	1:B:184:ARG:HD2	1.59	0.67
1:D:47:PHE:HD1	1:D:182:TYR:HD1	1.43	0.67
1:D:123:ASN:N	1:D:124:GLU:HA	2.09	0.66
1:B:84:ARG:N	1:B:85:GLY:HA2	2.00	0.66
1:C:419:VAL:HG12	1:C:447:LEU:HB3	1.77	0.66
1:D:276:ARG:HA	1:D:279:VAL:HG23	1.77	0.66
1:A:496:ASP:O	1:A:497:HIS:HB3	1.96	0.66
1:B:184:ARG:H	1:B:184:ARG:CD	2.08	0.66
1:D:186:ASN:CB	1:D:189:SER:HB2	2.24	0.66
1:B:272:THR:HG22	1:B:273:ASN:H	1.60	0.66
1:C:301:LYS:O	1:C:304:VAL:HG23	1.95	0.66
1:A:494:ILE:HG22	1:A:494:ILE:O	1.96	0.66
1:C:324:SER:O	1:C:328:VAL:HG23	1.95	0.66
1:B:265:CYS:CA	1:B:266:GLU:CB	2.67	0.65
1:C:488:VAL:HG12	1:D:492:LEU:HD11	1.78	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:185:ILE:HG23	1:D:355:ILE:HB	1.78	0.65
1:B:313:PHE:H	1:B:313:PHE:HD2	1.45	0.65
1:D:156:THR:O	1:D:160:THR:HG23	1.97	0.65
1:A:448:THR:HG23	1:A:466:ILE:HG23	1.78	0.64
1:C:464:THR:O	1:C:485:ASN:HA	1.98	0.64
1:B:117:SER:OG	1:B:241:ILE:HG21	1.96	0.64
1:D:438:ILE:HD12	1:D:438:ILE:H	1.63	0.64
1:B:397:LEU:HD11	1:B:417:PRO:HG3	1.77	0.64
1:D:118:LEU:HA	1:D:126:THR:OG1	1.97	0.64
1:D:75:ILE:HA	1:D:373:GLY:O	1.97	0.64
1:D:421:LEU:HD23	1:D:449:VAL:CG2	2.28	0.64
1:B:270:GLU:HB3	1:B:376:VAL:HG21	1.79	0.63
1:D:185:ILE:O	1:D:354:VAL:HG22	1.98	0.63
1:A:243:ASN:HD22	1:A:246:ALA:HB2	1.64	0.63
1:C:161:LYS:HA	1:C:164:LEU:HD12	1.79	0.63
1:B:128:LEU:HD23	1:B:167:TYR:HE2	1.63	0.63
1:A:345:ALA:O	1:A:346:LYS:HB2	1.96	0.63
1:C:462:LYS:O	1:C:484:GLU:HA	1.98	0.63
1:B:91:SER:HB3	1:B:93:VAL:H	1.63	0.63
1:B:283:THR:HG22	1:B:315:ILE:O	1.98	0.63
1:C:460:SER:HB3	1:C:482:VAL:HG13	1.79	0.63
1:D:311:SER:HA	1:D:313:PHE:H	1.64	0.62
1:D:47:PHE:CD1	1:D:183:PRO:HD2	2.35	0.62
1:D:151:MET:HG3	1:D:177:PHE:CZ	2.35	0.62
1:A:399:SER:HB2	1:A:408:SER:OG	1.99	0.62
1:C:252:ILE:HG21	1:C:322:TRP:CZ3	2.34	0.62
1:D:36:GLU:O	1:D:40:THR:HB	1.99	0.62
1:C:494:ILE:O	1:C:494:ILE:CG2	2.47	0.62
1:A:184:ARG:HB3	1:A:354:VAL:HG11	1.82	0.62
1:A:437:SER:HB3	1:A:457:LYS:HA	1.80	0.62
1:B:265:CYS:HB2	1:B:370:ASN:HB2	1.82	0.62
1:A:270:GLU:HB2	1:A:320:ASN:HB2	1.82	0.61
1:A:453:VAL:HG22	1:A:475:ILE:HB	1.81	0.61
1:A:179:GLN:NE2	1:A:211:GLY:O	2.27	0.61
1:A:243:ASN:ND2	1:A:246:ALA:HB2	2.16	0.61
1:A:291:LEU:HD12	1:A:371:SER:O	2.00	0.61
1:C:303:HIS:ND1	1:C:306:GLU:OE1	2.34	0.61
1:D:271:VAL:HG11	1:D:315:ILE:HG23	1.80	0.61
1:B:395:SER:HB2	1:B:397:LEU:H	1.66	0.61
1:B:497:HIS:O	1:C:420:LYS:NZ	2.27	0.61
1:B:21:VAL:HG12	1:B:25:LEU:HD12	1.83	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:185:ILE:CG2	1:D:355:ILE:HB	2.30	0.60
1:B:257:MET:O	1:B:258:ASN:C	2.39	0.60
1:A:235:TYR:CE1	1:A:256:LEU:HD22	2.36	0.60
1:D:25:LEU:HD22	1:D:44:LEU:HD13	1.84	0.60
1:A:271:VAL:O	1:A:375:ASN:HA	2.01	0.59
1:D:424:SER:OG	1:D:434:ARG:NH2	2.35	0.59
1:B:151:MET:HG3	1:B:177:PHE:CZ	2.36	0.59
1:A:444:LEU:HD12	1:A:461:LEU:HB2	1.85	0.59
1:A:103:ASN:HD21	1:A:160:THR:HG21	1.67	0.59
1:A:163:ILE:HG22	1:A:163:ILE:O	2.01	0.59
1:B:467:ILE:HG23	1:B:488:VAL:HB	1.83	0.59
1:D:265:CYS:HA	1:D:266:GLU:CB	2.32	0.59
1:D:397:LEU:HD22	1:D:398:TYR:HE2	1.67	0.59
1:A:65:GLY:N	1:A:287:TYR:HH	2.01	0.58
1:A:446:HIS:HB3	1:A:464:THR:CG2	2.29	0.58
1:D:271:VAL:O	1:D:376:VAL:HG23	2.04	0.58
1:C:184:ARG:HA	1:C:208:TYR:HE2	1.68	0.58
1:A:151:MET:HG3	1:A:177:PHE:CZ	2.38	0.58
1:A:337:ILE:O	1:A:337:ILE:HG22	2.03	0.58
1:A:390:LEU:O	1:A:394:MET:HG2	2.03	0.58
1:B:361:VAL:HG12	1:B:362:GLY:N	2.18	0.58
1:A:484:GLU:O	1:A:486:LYS:HG3	2.03	0.58
1:B:395:SER:HB3	1:B:441:MET:HG3	1.85	0.58
1:D:148:LEU:HD21	1:D:150:LEU:CD2	2.33	0.57
1:A:441:MET:O	1:A:443:GLU:N	2.36	0.57
1:B:240:ASN:HB3	1:B:242:ASP:OD2	2.04	0.57
1:B:376:VAL:HG12	1:B:377:PRO:CD	2.35	0.57
1:C:434:ARG:HD2	1:C:453:VAL:O	2.04	0.57
1:D:469:ALA:HB2	1:D:475:ILE:CD1	2.35	0.57
1:D:274:LYS:NZ	1:D:308:LYS:HA	2.19	0.57
1:B:186:ASN:HB2	1:B:191:LEU:H	1.69	0.57
1:D:386:THR:O	1:D:389:ASP:HB2	2.04	0.57
1:A:377:PRO:HB2	1:A:379:SER:HB2	1.85	0.57
1:B:376:VAL:CG1	1:B:377:PRO:HD2	2.32	0.57
1:D:185:ILE:HG13	1:D:186:ASN:H	1.69	0.57
1:D:469:ALA:HB2	1:D:475:ILE:CG1	2.35	0.57
1:A:313:PHE:HA	1:A:315:ILE:HD12	1.85	0.56
1:B:252:ILE:HD11	1:B:374:ILE:HG12	1.86	0.56
1:A:492:LEU:HD13	1:B:492:LEU:HD12	1.87	0.56
1:B:128:LEU:HD23	1:B:167:TYR:CE2	2.40	0.56
1:B:217:ALA:O	1:B:221:ASN:HB2	2.06	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:440:ASP:HB3	1:B:460:SER:HA	1.86	0.56
1:B:490:GLY:O	1:B:491:ASN:HB3	2.04	0.56
1:D:47:PHE:CD1	1:D:182:TYR:HD1	2.21	0.56
1:B:126:THR:OG1	1:B:127:PHE:N	2.38	0.56
1:B:94:LEU:C	1:B:96:LYS:H	2.09	0.56
1:B:266:GLU:OE1	1:B:369:GLU:HG2	2.06	0.56
1:B:10:GLN:HA	1:B:13:ILE:HD12	1.88	0.56
1:B:332:GLN:C	1:B:334:GLN:H	2.09	0.56
1:D:265:CYS:HA	1:D:266:GLU:HB2	1.86	0.56
1:D:126:THR:HG23	1:D:129:ASP:H	1.71	0.56
1:B:263:LYS:HA	1:B:264:ARG:CB	2.37	0.55
1:A:309:SER:HA	1:A:311:SER:N	2.21	0.55
1:C:454:THR:CG2	1:C:476:ASP:OD1	2.55	0.55
1:B:264:ARG:O	1:B:265:CYS:CB	2.55	0.55
1:B:149:VAL:HG22	1:B:175:TYR:HB2	1.89	0.55
1:B:443:GLU:HB2	1:B:462:LYS:HB3	1.88	0.55
1:D:382:LEU:HD21	1:D:398:TYR:CE1	2.40	0.55
1:B:473:ASP:HB2	1:B:491:ASN:HB2	1.87	0.55
1:A:69:ARG:HH21	1:A:312:LYS:HE3	1.71	0.55
1:A:118:LEU:HD21	1:A:163:ILE:HD12	1.89	0.55
1:B:21:VAL:HG12	1:B:25:LEU:CD1	2.36	0.55
1:B:265:CYS:CA	1:B:266:GLU:HB3	2.34	0.54
1:D:387:THR:HG21	1:D:426:THR:HA	1.88	0.54
1:B:374:ILE:O	1:B:374:ILE:HG13	2.08	0.54
1:A:362:GLY:C	1:A:364:ALA:H	2.09	0.54
1:D:272:THR:HG22	1:D:316:PHE:CE2	2.41	0.54
1:B:71:PRO:HG2	1:B:74:SER:OG	2.07	0.54
1:B:397:LEU:CD1	1:B:417:PRO:HG3	2.37	0.54
1:D:215:ILE:O	1:D:219:PHE:HB2	2.08	0.54
1:B:129:ASP:O	1:B:133:GLN:CG	2.52	0.54
1:B:490:GLY:O	1:B:491:ASN:CB	2.56	0.54
1:D:444:LEU:CD1	1:D:461:LEU:HB2	2.35	0.54
1:D:448:THR:HG22	1:D:466:ILE:HG12	1.90	0.54
1:A:121:VAL:O	1:A:122:ARG:HB2	2.07	0.54
1:A:71:PRO:HD3	1:A:286:GLN:HB2	1.89	0.53
1:B:267:PHE:CE2	1:B:365:ILE:CG1	2.89	0.53
1:C:75:ILE:HA	1:C:373:GLY:O	2.09	0.53
1:B:185:ILE:HG22	1:B:355:ILE:O	2.08	0.53
1:D:440:ASP:C	1:D:441:MET:HG2	2.29	0.53
1:C:236:ILE:HD11	1:C:325:LEU:HG	1.90	0.53
1:A:236:ILE:HG22	1:A:323:ILE:HB	1.89	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:252:ILE:CD1	1:B:374:ILE:HG12	2.38	0.53
1:D:103:ASN:HB3	1:D:152:ASN:HB3	1.91	0.53
1:A:90:ILE:N	1:A:91:SER:CA	2.71	0.53
1:A:309:SER:CA	1:A:310:VAL:C	2.70	0.53
1:B:446:HIS:HB3	1:B:464:THR:HG22	1.90	0.53
1:A:287:TYR:HB3	1:A:292:ARG:HG3	1.90	0.53
1:B:267:PHE:CD2	1:B:365:ILE:HG12	2.43	0.53
1:D:180:SER:HB2	1:D:182:TYR:HE2	1.74	0.53
1:D:446:HIS:HB2	1:D:464:THR:HG22	1.91	0.53
1:C:360:ALA:HB3	1:C:363:ALA:HB2	1.91	0.53
1:D:84:ARG:H	1:D:85:GLY:CA	2.22	0.53
1:B:268:VAL:HA	1:B:372:LEU:O	2.09	0.53
1:B:226:ASP:OD1	1:B:329:LYS:HE3	2.09	0.52
1:B:435:PHE:CE1	1:B:455:PHE:CD2	2.97	0.52
1:B:148:LEU:HD23	1:B:149:VAL:N	2.24	0.52
1:D:185:ILE:HG13	1:D:186:ASN:N	2.22	0.52
1:D:272:THR:HG22	1:D:316:PHE:HD2	1.70	0.52
1:A:270:GLU:HG3	1:A:322:TRP:HZ3	1.75	0.52
1:A:271:VAL:HG22	1:A:316:PHE:O	2.08	0.52
1:B:264:ARG:O	1:B:265:CYS:HB3	2.09	0.52
1:D:236:ILE:HG23	1:D:325:LEU:HD21	1.92	0.52
1:B:42:LYS:HD3	1:B:221:ASN:HD21	1.75	0.52
1:C:121:VAL:HG12	1:C:122:ARG:N	2.24	0.52
1:D:126:THR:N	1:D:129:ASP:HB2	2.25	0.52
1:D:25:LEU:HD23	1:D:28:ILE:HD12	1.92	0.52
1:B:115:PRO:HD2	1:B:118:LEU:HD12	1.92	0.51
1:B:438:ILE:H	1:B:438:ILE:CD1	2.13	0.51
1:D:448:THR:CG2	1:D:466:ILE:HG12	2.40	0.51
1:D:494:ILE:C	1:D:495:LEU:HG	2.30	0.51
1:C:77:PRO:C	1:C:79:GLU:N	2.63	0.51
1:D:93:VAL:HG22	1:D:257:MET:HG3	1.92	0.51
1:D:271:VAL:HG13	1:D:315:ILE:HG23	1.91	0.51
1:D:132:VAL:HG12	1:D:148:LEU:HD13	1.93	0.51
1:A:447:LEU:HD13	1:A:461:LEU:HD13	1.91	0.51
1:B:313:PHE:O	1:B:315:ILE:N	2.43	0.51
1:D:87:PRO:CG	1:D:254:ASN:HB2	2.32	0.51
1:A:322:TRP:O	1:A:323:ILE:HG12	2.11	0.51
1:A:492:LEU:HB2	1:B:492:LEU:HG	1.92	0.51
1:B:446:HIS:CB	1:B:464:THR:HG22	2.41	0.51
1:C:286:GLN:HE21	1:C:291:LEU:HD23	1.75	0.51
1:B:278:ASP:OD2	1:B:378:ARG:NH2	2.42	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:273:ASN:HA	1:C:314:LYS:O	2.10	0.51
1:A:53:ARG:HB3	1:A:341:ILE:HD11	1.92	0.51
1:B:36:GLU:HG2	1:B:39:HIS:HE1	1.76	0.51
1:C:92:SER:HB2	1:C:93:VAL:CG2	2.41	0.51
1:A:352:LEU:O	1:A:354:VAL:HG23	2.10	0.50
1:B:497:HIS:C	1:C:420:LYS:HD3	2.30	0.50
1:C:401:ASN:O	1:C:402:ALA:HB3	2.11	0.50
1:A:215:ILE:HG23	1:A:216:TYR:N	2.26	0.50
1:B:208:TYR:CD1	1:B:356:GLN:HG3	2.46	0.50
1:D:265:CYS:CB	1:D:370:ASN:HB3	2.40	0.50
1:D:444:LEU:HD12	1:D:461:LEU:CB	2.37	0.50
1:C:92:SER:HB2	1:C:93:VAL:HG23	1.93	0.50
1:C:395:SER:OG	1:C:441:MET:HG3	2.10	0.50
1:D:448:THR:HG23	1:D:466:ILE:HG23	1.92	0.50
1:B:150:LEU:HB2	1:B:176:THR:HG22	1.93	0.50
1:D:100:VAL:HA	1:D:149:VAL:O	2.12	0.50
1:D:47:PHE:HD1	1:D:182:TYR:CD1	2.28	0.50
1:B:313:PHE:N	1:B:313:PHE:CD2	2.78	0.50
1:C:153:SER:HA	1:C:179:GLN:HG2	1.92	0.50
1:A:103:ASN:ND2	1:A:160:THR:HG21	2.26	0.50
1:B:418:LEU:HD11	1:B:446:HIS:CE1	2.47	0.50
1:A:184:ARG:HH11	1:A:356:GLN:HE21	1.58	0.50
1:B:424:SER:HB2	1:B:434:ARG:HH21	1.76	0.50
1:B:464:THR:O	1:B:485:ASN:HA	2.12	0.50
1:A:139:ASN:OD1	1:A:144:THR:HG23	2.12	0.49
1:C:307:PHE:O	1:C:308:LYS:HG2	2.13	0.49
1:A:117:SER:HA	1:A:127:PHE:HB2	1.95	0.49
1:A:184:ARG:HH11	1:A:356:GLN:NE2	2.11	0.49
1:B:86:LEU:HD23	1:B:86:LEU:H	1.78	0.49
1:B:256:LEU:HD21	1:B:268:VAL:CG2	2.43	0.49
1:B:369:GLU:C	1:B:371:SER:H	2.16	0.49
1:D:13:ILE:HD12	1:D:14:ARG:HG3	1.95	0.49
1:D:126:THR:HG22	1:D:129:ASP:OD2	2.13	0.49
1:D:283:THR:HG21	1:D:313:PHE:HD1	1.77	0.49
1:B:272:THR:HG21	1:B:378:ARG:HG2	1.95	0.49
1:C:272:THR:O	1:C:316:PHE:HB3	2.12	0.49
1:D:73:ASP:O	1:D:76:GLN:NE2	2.46	0.49
1:D:388:SER:HB3	1:D:419:VAL:HG12	1.94	0.49
1:A:91:SER:HB2	1:A:93:VAL:N	2.26	0.48
1:C:449:VAL:HG13	1:C:467:ILE:HB	1.95	0.48
1:D:444:LEU:HD21	1:D:447:LEU:HB2	1.95	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:122:ARG:C	1:A:124:GLU:HA	2.33	0.48
1:D:93:VAL:CG2	1:D:257:MET:HG3	2.44	0.48
1:C:454:THR:HG21	1:C:476:ASP:OD1	2.12	0.48
1:D:308:LYS:O	1:D:309:SER:HB3	2.13	0.48
1:B:284:LEU:H	1:B:315:ILE:HD12	1.77	0.48
1:D:267:PHE:CE2	1:D:321:LEU:HD23	2.49	0.48
1:C:435:PHE:O	1:C:436:GLU:C	2.51	0.48
1:D:135:ILE:HG13	1:D:148:LEU:HD12	1.94	0.48
1:D:273:ASN:HA	1:D:314:LYS:O	2.14	0.48
1:D:396:ASN:ND2	1:D:442:LEU:HG	2.29	0.48
1:A:215:ILE:O	1:A:219:PHE:HB2	2.13	0.48
1:D:122:ARG:O	1:D:123:ASN:CB	2.62	0.48
1:D:168:ASN:C	1:D:170:CYS:H	2.16	0.48
1:B:413:PHE:N	1:B:413:PHE:CD2	2.81	0.48
1:C:92:SER:CA	1:C:93:VAL:HB	2.43	0.48
1:A:340:GLU:O	1:A:342:ILE:HD12	2.14	0.48
1:B:51:PHE:O	1:B:54:PHE:N	2.44	0.48
1:C:470:ASN:O	1:C:473:ASP:HB2	2.13	0.48
1:A:209:PRO:HA	1:A:210:PRO:HD2	1.65	0.47
1:A:91:SER:HB2	1:A:93:VAL:HG22	1.96	0.47
1:A:249:ASP:HB3	1:A:252:ILE:HD12	1.96	0.47
1:A:256:LEU:HD23	1:A:265:CYS:HB2	1.95	0.47
1:C:87:PRO:HG3	1:C:254:ASN:HB2	1.97	0.47
1:D:387:THR:HG21	1:D:425:PHE:O	2.14	0.47
1:A:71:PRO:C	1:A:73:ASP:H	2.16	0.47
1:A:463:GLY:HA3	1:A:485:ASN:OD1	2.14	0.47
1:C:90:ILE:HA	1:C:91:SER:HA	1.58	0.47
1:D:75:ILE:HD12	1:D:315:ILE:HG12	1.95	0.47
1:B:453:VAL:HG12	1:B:454:THR:N	2.30	0.47
1:A:264:ARG:HB3	1:A:265:CYS:CA	2.41	0.47
1:B:260:PRO:O	1:B:261:ASN:HB2	2.15	0.47
1:B:269:MET:O	1:B:269:MET:HG2	2.14	0.47
1:C:347:THR:HB	1:C:353:ASN:HA	1.96	0.47
1:C:362:GLY:O	1:C:365:ILE:HG13	2.15	0.47
1:D:274:LYS:HZ1	1:D:308:LYS:HA	1.78	0.47
1:D:397:LEU:HD22	1:D:398:TYR:CE2	2.47	0.47
1:A:33:SER:O	1:A:35:HIS:N	2.48	0.47
1:B:438:ILE:HD12	1:B:438:ILE:N	2.20	0.47
1:D:269:MET:O	1:D:269:MET:HG2	2.15	0.47
1:B:93:VAL:O	1:B:257:MET:HE3	2.15	0.47
1:B:184:ARG:HG3	1:B:208:TYR:HD2	1.80	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:317:ASN:OD1	1:B:318:THR:N	2.48	0.47
1:C:92:SER:H	1:C:93:VAL:CB	2.19	0.47
1:D:130:LEU:O	1:D:133:GLN:HB2	2.15	0.47
1:A:454:THR:CG2	1:A:476:ASP:HB3	2.35	0.47
1:C:484:GLU:O	1:C:486:LYS:HG3	2.15	0.47
1:D:75:ILE:CD1	1:D:315:ILE:HG12	2.44	0.47
1:D:267:PHE:HE2	1:D:321:LEU:HD23	1.80	0.47
1:C:88:ASP:HA	1:C:89:ASN:HA	1.69	0.46
1:C:436:GLU:OE2	1:C:436:GLU:HA	2.16	0.46
1:B:110:MET:CE	1:B:119:ILE:HD13	2.45	0.46
1:B:90:ILE:N	1:B:91:SER:CA	2.74	0.46
1:B:272:THR:HG23	1:B:376:VAL:O	2.15	0.46
1:C:440:ASP:HB3	1:C:460:SER:HA	1.97	0.46
1:A:267:PHE:C	1:A:267:PHE:CD2	2.89	0.46
1:C:337:ILE:H	1:C:337:ILE:HG13	1.56	0.46
1:C:92:SER:N	1:C:94:LEU:H	2.14	0.46
1:D:470:ASN:O	1:D:471:HIS:C	2.53	0.46
1:A:97:LEU:HG	1:A:98:VAL:N	2.28	0.46
1:C:99:VAL:HG13	1:C:237:PHE:HD2	1.80	0.46
1:B:390:LEU:HD22	1:B:394:MET:HE2	1.98	0.46
1:D:265:CYS:HB2	1:D:266:GLU:HB3	1.98	0.46
1:A:84:ARG:HA	1:A:85:GLY:HA3	1.47	0.46
1:B:327:ALA:O	1:B:331:LEU:HD12	2.15	0.46
1:C:270:GLU:HB3	1:C:376:VAL:HG21	1.98	0.46
1:D:420:LYS:HD3	1:D:448:THR:OG1	2.15	0.46
1:B:219:PHE:HE1	1:B:224:LEU:HD13	1.79	0.46
1:D:100:VAL:HG11	1:D:215:ILE:HD11	1.98	0.46
1:D:435:PHE:CE1	1:D:455:PHE:CD2	3.05	0.45
1:A:161:LYS:HA	1:A:164:LEU:HD12	1.99	0.45
1:B:126:THR:HG22	1:B:129:ASP:CG	2.36	0.45
1:B:131:THR:HG22	1:B:148:LEU:HD11	1.97	0.45
1:B:149:VAL:HA	1:B:175:TYR:O	2.17	0.45
1:D:208:TYR:CE1	1:D:356:GLN:HG3	2.50	0.45
1:A:420:LYS:HG3	1:D:497:HIS:C	2.36	0.45
1:B:26:GLU:HA	1:B:29:LEU:HD12	1.98	0.45
1:B:87:PRO:HD3	1:B:254:ASN:HB2	1.98	0.45
1:B:477:ILE:HA	1:B:478:PRO:HD3	1.73	0.45
1:D:98:VAL:O	1:D:236:ILE:HA	2.17	0.45
1:D:182:TYR:CE2	1:D:210:PRO:HG3	2.51	0.45
1:D:363:ALA:O	1:D:366:LYS:HG2	2.17	0.45
1:A:264:ARG:NH2	1:A:265:CYS:HB3	2.31	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:474:ARG:HB3	1:A:493:ARG:HE	1.82	0.45
1:D:91:SER:C	1:D:93:VAL:H	2.19	0.45
1:D:184:ARG:HD3	1:D:354:VAL:HG11	1.99	0.45
1:D:270:GLU:OE2	1:D:376:VAL:HG11	2.17	0.45
1:A:473:ASP:CG	1:A:491:ASN:HB2	2.37	0.45
1:D:21:VAL:HA	1:D:24:GLU:HB3	1.99	0.45
1:D:65:GLY:HA3	1:D:66:LYS:HA	1.62	0.45
1:D:126:THR:H	1:D:129:ASP:HB2	1.81	0.45
1:A:453:VAL:HG21	1:A:467:ILE:HG22	1.99	0.45
1:B:311:SER:N	1:B:312:LYS:HB2	2.32	0.45
1:C:129:ASP:O	1:C:133:GLN:CG	2.65	0.45
1:C:462:LYS:HB2	1:C:484:GLU:HG3	1.99	0.45
1:D:126:THR:HG22	1:D:129:ASP:CG	2.37	0.45
1:D:159:ASP:O	1:D:163:ILE:HD12	2.17	0.45
1:D:270:GLU:HB3	1:D:376:VAL:HG21	1.98	0.45
1:C:348:LEU:HA	1:C:349:ASP:HA	1.72	0.44
1:A:89:ASN:HA	1:A:90:ILE:HA	1.46	0.44
1:D:219:PHE:CD2	1:D:225:LEU:HD13	2.52	0.44
1:D:352:LEU:HD23	1:D:353:ASN:H	1.82	0.44
1:D:376:VAL:HG12	1:D:377:PRO:HD2	1.99	0.44
1:C:129:ASP:O	1:C:133:GLN:HG2	2.18	0.44
1:C:388:SER:HA	1:C:421:LEU:HD12	1.99	0.44
1:D:293:LEU:O	1:D:294:VAL:HG23	2.17	0.44
1:D:313:PHE:C	1:D:315:ILE:H	2.19	0.44
1:C:70:PRO:HA	1:C:71:PRO:HD3	1.89	0.44
1:B:259:PRO:HA	1:B:260:PRO:HD3	1.77	0.44
1:C:286:GLN:HG3	1:C:290:LYS:O	2.18	0.44
1:D:442:LEU:HA	1:D:442:LEU:HD23	1.74	0.44
1:A:320:ASN:C	1:A:321:LEU:HG	2.38	0.44
1:A:179:GLN:HE21	1:A:214:ASP:HB3	1.82	0.44
1:A:220:TYR:HD1	1:A:225:LEU:HD23	1.82	0.44
1:B:388:SER:OG	1:B:421:LEU:HB2	2.18	0.44
1:A:42:LYS:CE	1:A:221:ASN:HD22	2.28	0.44
1:B:122:ARG:C	1:B:124:GLU:HA	2.36	0.44
1:B:272:THR:HG22	1:B:273:ASN:N	2.30	0.44
1:B:275:THR:HG22	1:B:276:ARG:H	1.82	0.44
1:C:91:SER:N	1:C:92:SER:CA	2.69	0.44
1:A:468:ILE:HD12	1:C:468:ILE:HD12	2.00	0.43
1:B:391:LEU:HG	1:B:392:LEU:N	2.32	0.43
1:C:462:LYS:CB	1:C:484:GLU:HG3	2.48	0.43
1:D:125:ASN:HB3	1:D:129:ASP:HB3	2.00	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:84:ARG:H	1:D:85:GLY:HA2	1.81	0.43
1:D:452:ASP:OD2	1:D:474:ARG:HD2	2.18	0.43
1:A:116:LYS:C	1:A:118:LEU:H	2.21	0.43
1:A:491:ASN:O	1:B:491:ASN:N	2.52	0.43
1:D:451:GLY:O	1:D:453:VAL:HG23	2.18	0.43
1:A:467:ILE:HG12	1:A:488:VAL:HB	2.00	0.43
1:C:118:LEU:HD22	1:C:163:ILE:HD12	1.98	0.43
1:C:123:ASN:HA	1:C:124:GLU:HA	1.65	0.43
1:C:393:VAL:HA	1:C:398:TYR:CD2	2.54	0.43
1:D:94:LEU:C	1:D:96:LYS:H	2.22	0.43
1:D:208:TYR:CD1	1:D:356:GLN:HG3	2.53	0.43
1:D:283:THR:HG21	1:D:313:PHE:CD1	2.53	0.43
1:C:424:SER:HB2	1:C:434:ARG:NH2	2.33	0.43
1:D:82:LYS:HA	1:D:251:TYR:CD1	2.53	0.43
1:A:77:PRO:HG2	1:A:80:LYS:HG2	2.00	0.43
1:A:98:VAL:HG13	1:A:147:PRO:HG2	2.01	0.43
1:A:270:GLU:OE1	1:A:320:ASN:HB3	2.17	0.43
1:B:256:LEU:HD21	1:B:268:VAL:HG21	2.01	0.43
1:A:101:LYS:NZ	1:A:131:THR:HG21	2.34	0.43
1:A:424:SER:HB2	1:A:434:ARG:HH21	1.82	0.43
1:B:332:GLN:C	1:B:334:GLN:N	2.72	0.43
1:D:144:THR:OG1	1:D:145:ASP:N	2.51	0.43
1:D:397:LEU:CD2	1:D:398:TYR:CE2	3.01	0.43
1:D:421:LEU:HD23	1:D:449:VAL:HG21	2.01	0.43
1:A:264:ARG:CB	1:A:265:CYS:HA	2.40	0.43
1:A:271:VAL:H	1:A:376:VAL:HG23	1.83	0.43
1:C:243:ASN:HD22	1:C:246:ALA:HB2	1.83	0.43
1:D:444:LEU:HA	1:D:463:GLY:H	1.84	0.43
1:C:212:HIS:CD2	1:C:212:HIS:H	2.35	0.43
1:C:252:ILE:HG21	1:C:322:TRP:CH2	2.53	0.43
1:C:438:ILE:HA	1:C:439:PRO:HD3	1.75	0.42
1:D:449:VAL:HA	1:D:467:ILE:O	2.19	0.42
1:A:256:LEU:O	1:A:258:ASN:N	2.53	0.42
1:A:494:ILE:HG12	1:B:488:VAL:HG22	2.01	0.42
1:B:271:VAL:O	1:B:375:ASN:HA	2.19	0.42
1:D:398:TYR:N	1:D:398:TYR:CD2	2.86	0.42
1:A:87:PRO:HB3	1:A:254:ASN:ND2	2.35	0.42
1:B:96:LYS:HA	1:B:233:LYS:HA	1.99	0.42
1:D:126:THR:O	1:D:129:ASP:HB2	2.20	0.42
1:D:388:SER:HA	1:D:421:LEU:HD12	2.01	0.42
1:B:378:ARG:O	1:B:380:ARG:N	2.52	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:103:ASN:HD22	1:C:152:ASN:HB3	1.83	0.42
1:D:184:ARG:NE	1:D:356:GLN:OE1	2.51	0.42
1:D:270:GLU:HB2	1:D:320:ASN:HB2	2.01	0.42
1:B:366:LYS:HB2	1:B:366:LYS:HE3	1.78	0.42
1:B:478:PRO:O	1:B:479:PRO:C	2.58	0.42
1:C:311:SER:HA	1:C:313:PHE:N	2.35	0.42
1:D:272:THR:HG23	1:D:273:ASN:O	2.20	0.42
1:D:296:ILE:HD12	1:D:296:ILE:H	1.83	0.42
1:D:312:LYS:HD3	1:D:313:PHE:CD2	2.54	0.42
1:A:391:LEU:HD13	1:A:435:PHE:CE2	2.55	0.42
1:A:416:VAL:HA	1:A:417:PRO:HD3	1.84	0.42
1:B:244:LEU:HD12	1:B:393:VAL:HG21	2.02	0.42
1:D:21:VAL:HG12	1:D:25:LEU:HD12	2.02	0.42
1:A:100:VAL:HG23	1:A:236:ILE:HG13	2.02	0.42
1:A:184:ARG:NH1	1:A:356:GLN:NE2	2.68	0.42
1:A:186:ASN:HB3	1:A:189:SER:H	1.85	0.42
1:A:264:ARG:CZ	1:A:265:CYS:HB3	2.49	0.42
1:A:264:ARG:NH1	1:A:265:CYS:HB3	2.35	0.42
1:B:301:LYS:HE3	1:B:301:LYS:HA	2.02	0.42
1:C:149:VAL:HA	1:C:175:TYR:O	2.19	0.42
1:A:70:PRO:HB3	1:A:285:THR:HA	2.01	0.42
1:A:101:LYS:HE2	1:A:239:SER:OG	2.19	0.42
1:C:454:THR:HG23	1:C:476:ASP:OD1	2.19	0.42
1:D:122:ARG:O	1:D:124:GLU:HA	2.19	0.42
1:A:65:GLY:HA2	1:A:67:ILE:HG13	2.02	0.42
1:A:348:LEU:HA	1:A:349:ASP:HA	1.84	0.42
1:B:25:LEU:HD23	1:B:28:ILE:HD12	2.01	0.42
1:B:103:ASN:HD21	1:B:160:THR:HG21	1.84	0.42
1:B:313:PHE:C	1:B:315:ILE:H	2.21	0.42
1:D:210:PRO:HG2	1:D:214:ASP:HB2	2.01	0.42
1:B:266:GLU:HA	1:B:324:SER:HB3	2.02	0.42
1:C:168:ASN:O	1:C:169:HIS:HB2	2.20	0.42
1:D:392:LEU:O	1:D:395:SER:OG	2.32	0.42
1:D:469:ALA:HB2	1:D:475:ILE:HG13	2.01	0.42
1:A:439:PRO:HB3	1:A:459:VAL:HB	2.01	0.41
1:C:296:ILE:H	1:C:296:ILE:HG13	1.70	0.41
1:C:440:ASP:C	1:C:441:MET:HG2	2.39	0.41
1:D:51:PHE:O	1:D:54:PHE:HB3	2.20	0.41
1:D:174:ILE:O	1:D:174:ILE:HG23	2.20	0.41
1:A:417:PRO:HB3	1:A:444:LEU:HD23	2.01	0.41
1:B:378:ARG:C	1:B:380:ARG:N	2.73	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:92:SER:HB2	1:C:93:VAL:HB	2.02	0.41
1:D:255:HIS:O	1:D:259:PRO:HB3	2.20	0.41
1:A:101:LYS:HZ2	1:A:131:THR:HG21	1.85	0.41
1:B:157:ASP:O	1:B:158:GLU:C	2.57	0.41
1:B:212:HIS:O	1:B:214:ASP:N	2.52	0.41
1:B:270:GLU:HB3	1:B:376:VAL:CG2	2.49	0.41
1:B:348:LEU:HA	1:B:349:ASP:HA	1.67	0.41
1:C:135:ILE:HG21	1:C:172:VAL:HG13	2.03	0.41
1:C:271:VAL:HA	1:C:318:THR:HG1	1.85	0.41
1:C:308:LYS:HG3	1:C:309:SER:OG	2.20	0.41
1:D:374:ILE:O	1:D:374:ILE:HG13	2.20	0.41
1:A:362:GLY:O	1:A:364:ALA:N	2.52	0.41
1:B:266:GLU:OE2	1:B:330:ARG:NH2	2.52	0.41
1:B:271:VAL:O	1:B:376:VAL:HG23	2.19	0.41
1:C:103:ASN:O	1:C:105:GLY:N	2.48	0.41
1:C:271:VAL:HG12	1:C:316:PHE:O	2.20	0.41
1:D:134:GLN:O	1:D:137:HIS:N	2.54	0.41
1:C:488:VAL:HG13	1:D:494:ILE:HG12	2.01	0.41
1:D:216:TYR:CD2	1:D:337:ILE:HG21	2.54	0.41
1:B:208:TYR:HE1	1:B:210:PRO:HA	1.85	0.41
1:B:271:VAL:HG11	1:B:315:ILE:HB	2.02	0.41
1:B:104:GLY:HA3	1:B:179:GLN:NE2	2.35	0.41
1:C:142:TYR:HB2	1:C:144:THR:HG22	2.03	0.41
1:C:243:ASN:ND2	1:C:246:ALA:HB2	2.35	0.41
1:C:309:SER:HA	1:C:310:VAL:HA	1.78	0.41
1:C:284:LEU:O	1:C:315:ILE:HD13	2.21	0.41
1:C:390:LEU:O	1:C:393:VAL:N	2.54	0.41
1:D:99:VAL:HG21	1:D:135:ILE:CD1	2.50	0.41
1:D:257:MET:H	1:D:257:MET:HG2	1.63	0.41
1:A:395:SER:C	1:A:397:LEU:H	2.25	0.41
1:A:427:LYS:O	1:A:430:ASP:HB2	2.20	0.41
1:B:107:GLY:O	1:B:112:CYS:N	2.54	0.41
1:B:128:LEU:HD12	1:B:128:LEU:HA	1.84	0.41
1:B:208:TYR:HA	1:B:209:PRO:HD3	1.90	0.41
1:B:209:PRO:HA	1:B:210:PRO:HD3	1.99	0.41
1:B:268:VAL:HB	1:B:322:TRP:HB2	2.02	0.41
1:B:462:LYS:O	1:B:484:GLU:HA	2.21	0.41
1:C:97:LEU:HD22	1:C:253:LEU:HD21	2.02	0.41
1:C:103:ASN:HD21	1:C:160:THR:HG21	1.85	0.41
1:D:69:ARG:HA	1:D:70:PRO:HD3	1.93	0.41
1:D:191:LEU:HG	1:D:192:PRO:HD2	2.03	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:270:GLU:OE1	1:D:380:ARG:NH2	2.54	0.41
1:D:390:LEU:O	1:D:391:LEU:C	2.59	0.41
1:A:278:ASP:OD2	1:A:316:PHE:CE2	2.74	0.41
1:D:348:LEU:HA	1:D:349:ASP:HA	1.78	0.41
1:A:29:LEU:HG	1:A:44:LEU:HD12	2.03	0.40
1:C:300:PRO:O	1:C:302:ALA:N	2.54	0.40
1:C:429:GLN:HG2	1:C:433:ARG:NH1	2.37	0.40
1:D:84:ARG:N	1:D:85:GLY:CA	2.83	0.40
1:C:236:ILE:CD1	1:C:325:LEU:HG	2.51	0.40
1:D:242:ASP:N	1:D:242:ASP:OD1	2.54	0.40
1:D:265:CYS:CA	1:D:266:GLU:CB	2.99	0.40
1:D:272:THR:HG23	1:D:273:ASN:N	2.35	0.40
1:D:397:LEU:CD2	1:D:398:TYR:HE2	2.34	0.40
1:B:71:PRO:HD3	1:B:286:GLN:HB2	2.03	0.40
1:B:106:LEU:HD21	1:B:155:ASN:HB3	2.01	0.40
1:B:365:ILE:O	1:B:366:LYS:C	2.60	0.40
1:B:378:ARG:C	1:B:380:ARG:H	2.24	0.40
1:D:174:ILE:O	1:D:174:ILE:CG2	2.69	0.40
1:A:388:SER:HB3	1:A:419:VAL:HG12	2.03	0.40
1:B:227:THR:HG22	1:B:231:GLU:OE2	2.22	0.40
1:B:255:HIS:O	1:B:255:HIS:CD2	2.75	0.40
1:D:134:GLN:C	1:D:136:GLU:N	2.75	0.40
1:A:244:LEU:HA	1:A:244:LEU:HD23	1.80	0.40
1:A:392:LEU:O	1:A:395:SER:OG	2.40	0.40
1:B:28:ILE:H	1:B:28:ILE:HG13	1.77	0.40
1:B:249:ASP:HB3	1:B:252:ILE:HG22	2.03	0.40
1:D:282:GLY:O	1:D:317:ASN:N	2.52	0.40
1:D:347:THR:HB	1:D:353:ASN:HA	2.03	0.40
1:D:392:LEU:HD12	1:D:392:LEU:HA	1.84	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	459/528 (87%)	376 (82%)	64 (14%)	19 (4%)	3	26
1	B	461/528 (87%)	377 (82%)	58 (13%)	26 (6%)	2	19
1	C	442/528 (84%)	363 (82%)	65 (15%)	14 (3%)	4	31
1	D	462/528 (88%)	384 (83%)	65 (14%)	13 (3%)	5	34
All	All	1824/2112 (86%)	1500 (82%)	252 (14%)	72 (4%)	3	27

All (72) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	34	SER
1	A	257	MET
1	A	263	LYS
1	B	265	CYS
1	B	266	GLU
1	B	313	PHE
1	B	491	ASN
1	C	121	VAL
1	C	437	SER
1	D	34	SER
1	D	371	SER
1	A	84	ARG
1	A	346	LYS
1	A	363	ALA
1	A	370	ASN
1	A	379	SER
1	B	143	ASN
1	B	314	LYS
1	B	379	SER
1	B	442	LEU
1	C	78	TYR
1	C	301	LYS
1	C	343	VAL
1	C	370	ASN
1	C	436	GLU
1	D	38	GLU
1	D	254	ASN
1	D	264	ARG
1	D	266	GLU
1	D	365	ILE
1	A	210	PRO
1	A	246	ALA
1	A	261	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	267	PHE
1	A	442	LEU
1	B	92	SER
1	B	95	ASN
1	B	261	ASN
1	B	333	GLU
1	B	371	SER
1	B	415	THR
1	B	437	SER
1	C	113	LYS
1	C	411	ARG
1	D	309	SER
1	A	122	ARG
1	A	258	ASN
1	A	412	GLU
1	B	34	SER
1	B	165	GLN
1	B	224	LEU
1	B	392	LEU
1	D	85	GLY
1	A	209	PRO
1	B	38	GLU
1	B	117	SER
1	B	213	GLY
1	C	210	PRO
1	C	402	ALA
1	D	117	SER
1	D	123	ASN
1	D	129	ASP
1	D	379	SER
1	B	209	PRO
1	C	104	GLY
1	B	121	VAL
1	B	258	ASN
1	A	163	ILE
1	B	289	GLY
1	C	85	GLY
1	C	215	ILE
1	A	422	GLY

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	381/470 (81%)	345 (91%)	36 (9%)	8	38
1	B	380/470 (81%)	331 (87%)	49 (13%)	4	24
1	C	341/470 (73%)	310 (91%)	31 (9%)	9	39
1	D	385/470 (82%)	331 (86%)	54 (14%)	3	21
All	All	1487/1880 (79%)	1317 (89%)	170 (11%)	5	29

All (170) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	14	ARG
1	A	31	THR
1	A	67	ILE
1	A	80	LYS
1	A	81	ILE
1	A	118	LEU
1	A	145	ASP
1	A	148	LEU
1	A	152	ASN
1	A	189	SER
1	A	236	ILE
1	A	240	ASN
1	A	253	LEU
1	A	267	PHE
1	A	271	VAL
1	A	275	THR
1	A	283	THR
1	A	296	ILE
1	A	312	LYS
1	A	321	LEU
1	A	343	VAL
1	A	352	LEU
1	A	367	SER
1	A	372	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	379	SER
1	A	382	LEU
1	A	395	SER
1	A	399	SER
1	A	405	LEU
1	A	408	SER
1	A	424	SER
1	A	444	LEU
1	A	453	VAL
1	A	464	THR
1	A	476	ASP
1	A	477	ILE
1	B	30	THR
1	B	31	THR
1	B	40	THR
1	B	73	ASP
1	B	86	LEU
1	B	91	SER
1	B	92	SER
1	B	112	CYS
1	B	156	THR
1	B	163	ILE
1	B	168	ASN
1	B	174	ILE
1	B	180	SER
1	B	184	ARG
1	B	185	ILE
1	B	214	ASP
1	B	236	ILE
1	B	239	SER
1	B	247	THR
1	B	265	CYS
1	B	272	THR
1	B	278	ASP
1	B	296	ILE
1	B	301	LYS
1	B	305	ASP
1	B	311	SER
1	B	313	PHE
1	B	316	PHE
1	B	324	SER
1	B	337	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	340	GLU
1	B	349	ASP
1	B	361	VAL
1	B	366	LYS
1	B	371	SER
1	B	374	ILE
1	B	376	VAL
1	B	378	ARG
1	B	390	LEU
1	B	395	SER
1	B	397	LEU
1	B	400	LEU
1	B	405	LEU
1	B	424	SER
1	B	429	GLN
1	B	462	LYS
1	B	473	ASP
1	B	477	ILE
1	B	491	ASN
1	C	66	LYS
1	C	81	ILE
1	C	86	LEU
1	C	89	ASN
1	C	102	LEU
1	C	109	SER
1	C	110	MET
1	C	123	ASN
1	C	124	GLU
1	C	152	ASN
1	C	226	ASP
1	C	291	LEU
1	C	296	ILE
1	C	313	PHE
1	C	315	ILE
1	C	321	LEU
1	C	337	ILE
1	C	365	ILE
1	C	393	VAL
1	C	406	THR
1	C	426	THR
1	C	433	ARG
1	C	436	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	437	SER
1	C	441	MET
1	C	445	ASP
1	C	454	THR
1	C	459	VAL
1	C	466	ILE
1	C	488	VAL
1	C	494	ILE
1	D	12	VAL
1	D	14	ARG
1	D	19	LEU
1	D	45	ASP
1	D	57	GLU
1	D	75	ILE
1	D	90	ILE
1	D	95	ASN
1	D	110	MET
1	D	112	CYS
1	D	144	THR
1	D	152	ASN
1	D	159	ASP
1	D	174	ILE
1	D	176	THR
1	D	181	ARG
1	D	241	ILE
1	D	242	ASP
1	D	243	ASN
1	D	247	THR
1	D	250	LEU
1	D	252	ILE
1	D	257	MET
1	D	260	PRO
1	D	271	VAL
1	D	272	THR
1	D	275	THR
1	D	278	ASP
1	D	296	ILE
1	D	305	ASP
1	D	311	SER
1	D	312	LYS
1	D	316	PHE
1	D	322	TRP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	338	ASP
1	D	348	LEU
1	D	352	LEU
1	D	357	LEU
1	D	365	ILE
1	D	374	ILE
1	D	376	VAL
1	D	393	VAL
1	D	395	SER
1	D	397	LEU
1	D	405	LEU
1	D	415	THR
1	D	418	LEU
1	D	431	TYR
1	D	437	SER
1	D	441	MET
1	D	454	THR
1	D	468	ILE
1	D	475	ILE
1	D	477	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (25) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	39	HIS
1	A	221	ASN
1	A	254	ASN
1	A	286	GLN
1	A	320	ASN
1	A	356	GLN
1	A	470	ASN
1	B	39	HIS
1	B	179	GLN
1	B	221	ASN
1	B	255	HIS
1	B	258	ASN
1	B	320	ASN
1	B	446	HIS
1	C	152	ASN
1	C	179	GLN
1	C	286	GLN
1	C	319	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	429	GLN
1	D	125	ASN
1	D	254	ASN
1	D	258	ASN
1	D	320	ASN
1	D	334	GLN
1	D	446	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	465/528 (88%)	-0.41	2 (0%) 92 86	80, 145, 200, 335	0
1	B	467/528 (88%)	-0.52	0 100 100	72, 130, 184, 231	0
1	C	450/528 (85%)	-0.24	7 (1%) 72 57	85, 190, 241, 272	0
1	D	468/528 (88%)	-0.60	1 (0%) 95 91	58, 114, 164, 227	0
All	All	1850/2112 (87%)	-0.44	10 (0%) 91 83	58, 135, 218, 335	0

All (10) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	349	ASP	3.0
1	A	208	TYR	2.7
1	C	55	LEU	2.7
1	C	336	ALA	2.5
1	A	209	PRO	2.4
1	C	352	LEU	2.4
1	D	11	GLU	2.2
1	C	155	ASN	2.1
1	C	90	ILE	2.1
1	C	350	GLY	2.1

6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands

There are no ligands in this entry.

6.5 Other polymers

There are no such residues in this entry.